

TRINA A. HIGGINS, United States Attorney (7349)  
RUTH HACKFORD-PEER, Assistant United States Attorney (15049)  
MELINA SHIRALDI, Assistant United States Attorney (13110)  
CHRISTOPHER BURTON, Assistant United States Attorney (NV 12940)  
Attorneys for the United States of America  
111 South Main Street, Suite 1800  
Salt Lake City, Utah 84111-2176  
(801) 524-5682  
[melina.shiraldi@usdoj.gov](mailto:melina.shiraldi@usdoj.gov)

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UNITED STATES DISTRICT COURT  
DISTRICT OF UTAH

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UNITED STATES OF AMERICA,  Plaintiff,  v.  VINT WADE, DONNA WADE, STEVEN WILLING, and JORDAN WILLING,  Defendants.	NOTICE OF THE UNITED STATES' INTENT TO RELY ON THE EXPERT TESTIMONY OF ROBIN LEE HANSEN  Case No. 4:23-cr-00077-DN-DAO  District Judge David Nuffer
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Pursuant to FED. R. CRIM. 16(a)(1)(G), the United States provides the following disclosure concerning expert testimony that it may offer at trial pursuant to FED. R. EVID. 702, 703, and 705.

**QUALIFICATIONS**

Mr. Hansen received his B.S. in Geology. He has worked with the Bureau of Land Management (BLM) since 2007 and is currently employed as the Lead Petroleum Engineer and Geothermal Program Lead for the Utah State Office of the BLM. Mr. Hansen has extensive experience with X-ray fluorescence. His training, education, and professional experience are reflected in the curriculum vitae (CV) attached as Ex. A.

Mr. Hansen has never testified as an expert at trial or deposition. Additionally, Mr. Hansen co-authored a paper on Paleontology On Public Lands Handbook within the past ten years and more details can be found in his CV. Ex. A.

### **SUMMARY OF TESTIMONY**

Mr. Hansen will testify that X-Ray Fluorescence testing is a nondestructive test to determine quantitatively the amount of light and elements that may exist in a specific material. He will testify how portable X-Ray Fluorescence (pXRF) devices work, the types of devices used in this case, and the differences in elemental data depending on the duration of testing. Based on his expertise and experience, Mr. Hansen will testify that the best location to perform pXRF testing on a bone is the cortical or bone exterior, because that area of a bone contains the highest concentration of elements and returns the most consistent data. Mr. Hansen developed a standard operating procedure for the pXRF testing performed in this case and he will testify to the procedures that were followed. *See Ex. B.* He will discuss the different pXRF testing durations used in this case and the reasons for the different testing durations over the course of the case. Once the testing was complete, Mr. Hansen will testify to the steps that were followed for uploading and processing the pXRF data that was gathered.<sup>1</sup>

Mr. Hansen will opine about his review of the XRF data results and his observations that silicified or agatized bones have lower strontium and calcium values, in some instances as much as 1/10<sup>th</sup> the amounts of non-agatized fossil material.

Mr. Hansen will testify that there is an abundance of Uranium and Silicia in the Morrison Formation. He will further testify that the Morrison Formation is widely known for the agatized

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<sup>1</sup> A spreadsheet of all XRF data has been produce in discovery and will be updated.

bones which exhibit the colors that are sought after by those that collect the gem-bones. Mr. Hansen's testimony will include that gem-bone colors are in the trabecular or center of the bones that have gone through the silification agatization process.

The United States reserves the right to offer additional testimony by this expert, or other expert witnesses, and for the expert to amend or adjust his opinions and bases therefor, based on information perceived by or made known to the expert before or during trial.

Pursuant to FED. R. CRIM. P.16(a)(1)(G)(v), Mr. Robin Hansen has reviewed this summary and filing, approved the filing, and allowed the filing to be electronically signed.

DATED this 15<sup>th</sup> day of June, 2024.

*/s/ Robin Lee Hansen*  
ROBIN LEE HANSEN  
Lead Petroleum Engineer  
Bureau of Land Management  
Utah State Office

TRINA A. HIGGINS  
United States Attorney

*/s/ Melina Shiraldi*  
MELINA SHIRALDI  
Assistant United States Attorney